Concitherm Plate Evaporators

Application:

Within the EcoFlex® product group, the Concitherm gasketed plate evaporator is used as a stand-alone unit or as a booster to conventional evaporators. Works well with liquids containing fibers and pulp. Most commonly used in the sugar refining industry, it is used in the following applications:

sugar	food	chemical
paper	textile	wastewater treatment

Benefits:

Higher Performance at a Lower Cost—

- High heat-transfer coefficient (OHTC value).
- Shorter residence time improves the quality of sugar product.
- Low pressure drops eliminate need for an intermediate pump.
- Plates are laser-welded into pairs (cassettes), allowing higher temperatures in one media.
- A single cassette has over 32 ft^2 (3 m^2) of heat transfer surface, allowing a smaller, lighter, and less expensive unit for the same performance.

Versatility—

- The right design, not just a "good enough" design. Sizing flexibility and sophisticated selection software ensure a perfect customization for your needs.
- The compact footprint allows you to use it where you wouldn't dream of with a shell-and-tube evaporator.
- Can be used stand-alone or as booster for an existing Roberts evaporator.
- Handles liquids with fiber and pulp well, due to constant width gaps.

Peace of Mind—

- Over 75 years of design and manufacturing experience.
- Independent certification to ASME and other standards.

Convenient Maintenance—

- Individual cassettes mean no heavy lifting tools. Faster, more efficient maintenance, with shorter down times.

Longer Run Time Between Servicing—

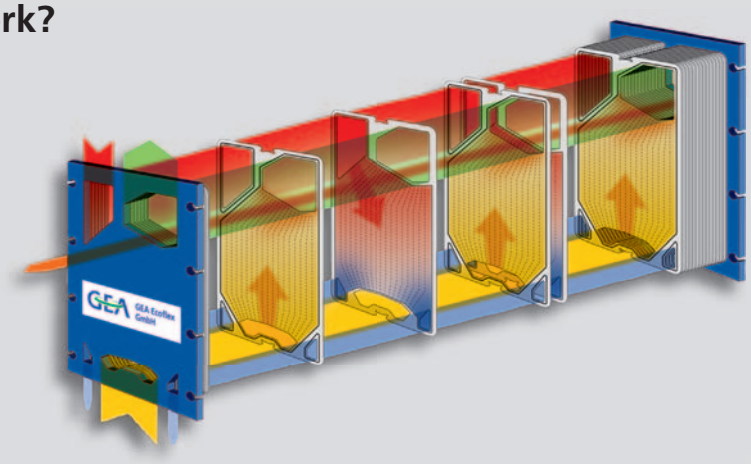
- Constant-width gaps between plates eliminate blockage-causing bottlenecks, reducing clogging.

GEA Heat Exchangers

GEA PHE Systems

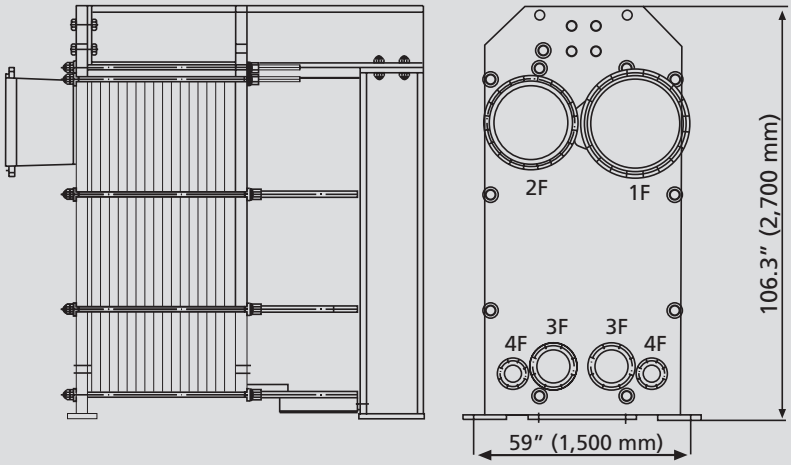
How does the Ecoflex Concitherm work?

- Steam (shown in red) enters the unit through the port labeled 2F.
- As heat transfers to the juice, the steam condenses into water (shown in blue) and leaves the unit through the ports labeled 4F.
- Diluted juice (shown in yellow) enters the unit through the ports labeled 3F.
- As heat transfers to it through the plates, water begins to evaporate off, and both the concentrated juice (shown in orange) and the vapor (shown in green) leave the unit through the port labeled 1F.



What does this mean for your sugar refinery?

- Juice is processed quickly, spending very little time in the unit. How quickly? Typical residence time in a sugar application is less than a minute, compared to the 10-30 minutes seen in a Roberts evaporator.
- The compact size and high efficiency of Concitherm allows you to use it to boost an existing Roberts evaporator.
- Lower operating temperature difference between the steam and juice sides mean reduced energy costs.



Technical Details:

Heat Transfer Plate Material: 316Ti Stainless as standard. Others on request.

Gasket: NBR, NBR High Temperature, EPDM, EPDM High Temperature, Viton, and others on request.

Port Connection: Metal Lined (Stainless and others on request), Welded Neck Flange and others on request.

Pressure Plate: Carbon Steel, others on request.

Maximum Port Connections:

1F (vapor and juice outlet) - 24" nominal (DN 600)
2F (steam inlet) - 20" nominal (DN 500)
3F (diluted juice inlet) - 6" nominal (DN 150)
4F (condensate outlet) - 4" nominal (DN 100)

Technical modification reserved. CT-US E 11/06 06/08

GEA PHE Systems - Competence in Heat Transfer

With emphasis on the highest quality standards and constant innovations, GEA PHE Systems continues to expand its market position: Within the GEA Heat Exchangers Segment, GEA Ecoflex together with GEA ViEX, GEA WTT, GEA PHE Systems Norht America, and GEA EcoServe forms GEA PHE Systems, the Center of Competence and Service Center for gasketed, fully welded, and brazed plate heat exchangers of GEA Group:

- HVAC
- refrigeration
- sugar
- chemical
- paper
- food
- life science
- marine
- power
- renewable energy

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